Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.   (Currently Amended) A method for transmitting a synchronization signal in an asynchronous wireless communication system having at least one synchronization channel ~~provided between each user device and~~ transmitted by a base station for transmitting [[the]] a first synchronization signal C_p having a plurality of synchronization codes from the base station to each user device periodically, the method comprising ~~the step of~~:

omitting at least one particular synchronization code from the plurality of synchronization codes when the base station transmits the synchronization codes.

2.   (Original) A method as claimed in claim 1, wherein positions of the omitted synchronization codes are set such that the positions are not overlapped between adjacent base stations which belong to the same base station group assigned to the wireless communication network.

3.   (Currently Amended) A method as claimed in claim 1, wherein~~, in a case~~ when the synchronization ~~code(s)~~ code is omitted from the ~~wireless communication network~~

synchronization signal, the synchronization ~~code(s)~~ code of a preset number is omitted from a preset position of the synchronization signal ~~used by itself~~.

4.   (Currently Amended) A method as claimed in claim 1, wherein, in a case at least two synchronization codes are omitted from the synchronization signal, the base station divides entire synchronization codes into a number of groups ~~the same with a~~ equal in number ~~to a~~ number of the omitted synchronization codes~~, and particular synchronization codes are omitted from the same positions of the synchronization codes of the divided groups~~.

5.   (Currently Amended) A method of searching for a cell in an asynchronous wireless communication system having at least two or more than two first and second synchronization channels provided between each user device and a base station for transmitting a first synchronization signal having a plurality of first synchronization codes and [[the]] a second synchronization signal having a plurality of second synchronization codes from the base station to each user device periodically, the method comprising the steps of:

(a1) the user device obtaining a slot synchronization for every slot assigned to the first and second synchronization channels using the first synchronization signal transmitted from the base station, and detecting a position of an omitted synchronization code when there is the omitted synchronization code from a plurality of synchronization codes in the first synchronization signal;

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(b1) searching for a starting point of each frame assigned to the first and second synchronization channels and one base station group the base station is in [[use]] by using the second synchronization signal; and,

(c1) the user device determining a code for identifying the base station among the second codes used by the base station group from [[a]] the position of the detected synchronization code.

6. (Original) A method as claimed in claim 5, wherein the step for detecting an omitted position of the first synchronization code uses a position of slot having a minimum correlation value among correlation values for slots obtained in the step of obtaining slot synchronization in the step a1) with reference to the frame starting point obtained in the step b1).

7. (Original) A method as claimed in claim 5, wherein the user device identifies a desired base station by receiving the first synchronization signal having a plurality of first synchronization codes transmitted from the base station and detecting a number and positions of omitted first synchronization codes from the plurality of first synchronization codes.

8.   (Original) A method as claimed in claim 5, wherein, in a case when there are more than two omitted synchronization codes, the step of detecting a position of an omitted synchronization code includes the steps of;

the user device correlating the plurality of first synchronization codes in the first synchronization signal in sequence,

the user device dividing entire synchronization codes into a number of groups identical to a number of omitted synchronization codes, and combining correlation values of the synchronization codes at identical positions of the divided groups,

detecting a relative position of a slot having the smallest correlation value from the combined correlation values with reference to a starting point of a frame containing the slot, and

determining the code according to the positional information.

9.   (Currently Amended) A method of searching for a cell in an asynchronous wireless communication system having at least two or more than two first and second synchronization channels provided between each user device and a base station for transmitting a first and a second synchronization signals each having a plurality of symbols to each user device periodically, the method comprising the steps of:

the base station erasing at least one particular symbol from a plurality of symbols

in the first synchronization signal before the base station transmits the first synchronization

signal;

the user device using the first synchronization signal transmitted from the base

station in obtaining a slot synchronization for every slot assigned to the first and second

synchronization channels and detecting a position of the erased symbol if there is at least one

erased symbol from the plurality of symbols in the first synchronization signal;

the user device using the second synchronization signal in searching both for

[[the]] a starting point of every frame assigned to the first and second synchronization channels

and one base station group the base station is in [[use]];

the user device determining [[the]] a code used by the base station among the

plurality of codes contained in the base station group with reference to the detected position of

omitted symbol.

10.   (Original) A method as claimed in claim 9, wherein the step for detecting an

omitted position of the symbol uses a position of a slot having a minimum correlation value

among correlation values for slots obtained in the step of obtaining slot synchronization with

reference to the frame starting point obtained in the step of searching for a starting point of each

frame.

11.   (Original) A method as claimed in claim 9, wherein the user device identifies a

desired base station by receiving the first synchronization signal having a plurality of first

synchronization codes and detecting a number and positions of omitted first synchronization

codes from the plurality of first synchronization codes.

12.   (Original) A method as claimed in claim 9, wherein, in a case when there are more

than two erased symbols, the step of detecting a position of an erased symbol includes the steps

of;

the user device correlating the plurality of the symbols in the first synchronization

signal in sequence,

the user device dividing entire synchronization codes into a number of groups

identical to a number of erased symbols, and combining correlation values of the symbols at

identical positions of the divided groups,

detecting a position of a slot having the smallest correlation value from the

combined correlation values with reference to a starting point of a frame containing the slot, and

determining the code according to the positional information.

13.   (Currently Amended) A base station transmission device in an asynchronous

wireless communication network, the base station transmission device for transmitting a

~~synchronizing~~ synchronization signal having a plurality of synchronization codes through at least

one switching device, wherein a central processing unit in the base station transmission device controls the switching device such that at least particular one of the plurality of synchronization codes is omitted in transmission of the synchronization signal, wherein the omitted one of the synchronization codes is used to identify the base station as the source of the synchronization signal.

14.   (Original)   A device of searching for a cell in an asynchronous wireless communication network comprising:

a slot synchronization obtaining unit for receiving the first synchronization signal having a plurality of synchronization codes transmitted through a synchronization channel provided to the communication network from a base station, obtaining a slot synchronization for every slot assigned to the synchronization channel, and detecting a slot position having a least correlation value from correlation values for respective slots obtained in the step for obtaining the slot synchronization with reference to a starting point of frame obtained in the step of searching for a starting point of every frame;

a frame synchronization and base station group determining unit belonging to one of base station groups for receiving a second synchronization signal having a plurality of code sequences from the base station and detecting a starting point of every frame and one base station group to be used by the base station, both assigned to the synchronization channel;

a CPU(Central Processing Unit) for detecting a position of an omitted synchronization code with reference to the starting point of a frame using the least correlation value for the plurality of synchronization codes in the first synchronization signal; and,

a code determining unit for determining a code used by the base station among the plurality of codes contained in the base station groups according to positional information on the omitted synchronization code.

15.   (Original) A device as claimed in claim 14, wherein the code determining unit includes a number of correlators the same as a number of synchronization codes omitted from the first synchronization signal transmitted from the base station.

16.   (New) The method as claimed in claim 1, wherein the omitted synchronization code identifies the base station as the source of the synchronization signals.

17.   (New) The method of claim 4, wherein said at least two omitted synchronization codes are omitted from corresponding positions of the synchronization codes of the divided groups.